Ebola haemorrhagic fever outbreaks in the DRC and Uganda: update

As of Monday 20 August 2012, the DRC Ebola haemorrhagic fever outbreak task team has identified 15 cases, of which 13 are probable and 2 are confirmed. A total of 10 deaths have been reported. In Isiro, there have been 12 cases with 5 deaths (3 of the fatal cases were healthcare workers); in Pawa there are 2 cases with 1 death, and in Dungu there has been one death. Overall, the outbreak is still contained in the Orientale district of north-eastern DRC.

The task force convened by the ministry of health continues to guide and support the outbreak response, at both the provincial and the district levels.

The WHO does not recommend that any trade or travel restrictions are applied to the Democratic Republic of Congo.

Ebola outbreak in Uganda: update

No new cases of suspected Ebola haemorrhagic fever have been reported in Uganda, with the last confirmed case admitted to the Kagadi isolation facility on 4 August 2012. To date, 24 cases (probable and confirmed) including 16 deaths have been reported. All cases originated from Kibaale district.

The WHO does not recommend that any trade or travel restrictions are applied to Uganda.

References:


Ebola haemorrhagic fever – fact sheet

Previous Outbreaks

Since its discovery in 1976, Ebola virus has been responsible for at least 1850 cases with over 1200 deaths, and has been associated with very high case fatality ratios (25-90%). Some of the major outbreaks are listed below (Figure).
Ebola virus has a devastating history in Uganda, where in 2000, at least 425 people were infected, of whom more than half died. During an outbreak in 2007, at least 37 people died. The last outbreak in Uganda was reported in May 2011, when it killed a 12-year-old girl.

**Natural reservoir**

- The natural reservoir of the Ebola virus is unknown despite extensive studies, but it seems to reside in the rain forests on the African continent and in the Western Pacific.
- Although non-human primates have been a source of infection for humans, they are not thought to be the reservoir. They, like humans, are believed to be infected directly from the natural reservoir or through a chain of transmission from the natural reservoir.
- On the African continent, Ebola infections of human cases have been linked to direct contact with gorillas, chimpanzees, monkeys, forest antelope and porcupines found dead in the rainforest. So far, the Ebola virus has been detected in the wild in carcasses of chimpanzees (in Côte-d’Ivoire and the Republic of the Congo), gorillas (Gabon and the Republic of the Congo) and duikers (the Republic of the Congo).
- Different hypotheses have been developed to explain the origin of Ebola outbreaks. Laboratory observation has shown that bats experimentally infected with Ebola do not die, and this has raised speculation that these mammals may play a role in maintaining the virus in the tropical forest.
- Extensive ecological studies have been carried out or are under way in the Republic of the Congo and Gabon to identify the natural reservoir of Ebola virus.

**Transmission**

- The Ebola virus is transmitted by direct contact with the blood, secretions, organs or other body fluids of infected persons.
- Burial ceremonies where mourners have direct contact with the body of the deceased person can play a significant role in the transmission of Ebola.
- The infection of human cases with Ebola virus through the handling of infected chimpanzees, gorillas, and forest antelopes – both dead and alive – has been documented in Côte d’Ivoire, the Republic of Congo and Gabon. The transmission of the Ebola Reston strain through the handling of cynomolgus monkeys has also been reported.
• Healthcare workers have frequently been infected while treating Ebola patients, through close contact without appropriate infection prevention and control precautions and inadequate barrier nursing procedures.

**Incubation period:** 2 to 21 days.

**Symptoms**

Ebola is characterised by the sudden onset of fever, intense weakness, muscle pain, headache and sore throat. This is often followed by vomiting, diarrhoea, rash, impaired kidney and liver function, and in some cases, both internal and external bleeding. Laboratory findings show low counts of white blood cells and platelets as well as elevated liver enzymes.

**Diagnosis**

Specialised laboratory tests on blood specimens detect specific antigens and/or genes of the virus. Antibodies to the virus can be detected, and the virus can be isolated in cell culture. Tests on samples present an extreme biohazard risk and are only conducted under maximum biological containment conditions.

**Therapy and vaccine**

• Severe cases require intensive supportive care, as patients are frequently dehydrated and in need of intravenous fluids or oral rehydration with solutions containing electrolytes.
• No specific treatment or vaccine is yet available for Ebola haemorrhagic fever. Several potential vaccines are being tested but it could be several years before any is available. A new drug therapy has shown some promise in laboratory studies and is currently being evaluated.
• Experimental studies using hyper-immune sera on animals have shown no protection against the disease.

**Containment**

• Suspected cases should be isolated from other patients and strict barrier nursing techniques implemented.
• Tracing and follow up of people who may have been exposed to Ebola through close contact with patients are essential.
• All healthcare workers (HCW) should be briefed on the nature of the disease and its transmission routes. Particular emphasis should be placed on ensuring that invasive procedures such as the placing of intravenous lines and the handling of blood, secretions, catheters and suction devices are carried out under strict barrier nursing conditions. HCW should have individual gowns, gloves, masks and goggles. Non-disposable protective equipment must not be reused unless they have been properly disinfected.
• Infection may also spread through contact with the soiled clothing or bed linens from a patient with Ebola. Disinfection is therefore required before handling these items.
• Communities affected by Ebola should make efforts to ensure that the population is well informed, both about the nature of the disease itself and about necessary outbreak containment measures, including burial of the deceased. People who have died from Ebola should be promptly and safely buried.
Contacts

- As the primary mode of person-to-person transmission is contact with contaminated blood, secretions or body fluids, people who have had close physical contact with patients should be kept under strict surveillance. Their body temperature should be checked twice a day, with immediate hospitalisation and strict isolation in case of the onset of fever.
- Healthcare workers who come into close contact with patients or contaminated materials without barrier nursing attire must be considered as contacts and followed up accordingly.

References: